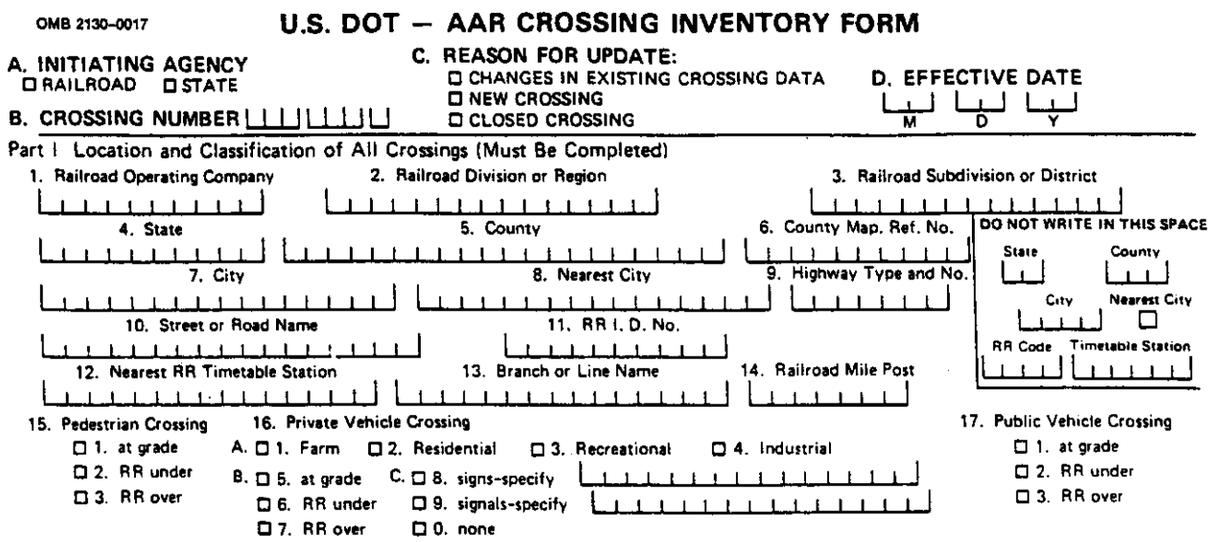
3.0 U.S. DOT-AAR CROSSING INVENTORY FORM RECORDING INSTRUCTIONS

3.1 Recording Instructions

The following section explains the process of filling out the U.S. DOT-AAR Crossing Inventory Form. Each section is preceded by a pictorial representation of the section of the form being detailed. Each letter (e.g., A.) or item number (e.g., Item 1.) in the explanation refers to the same lettered or numbered item on the form. Alphanumeric items are to be entered left-justified, while numeric items will be entered right-justified.

The four-part U.S. DOT-AAR Crossing Inventory form may be used to submit crossing inventory changes. Railroads should check submittals to insure that changes have been circled, that an effective date is shown, and that all information is correct. If the changes are simple or minor (numbers, closings, ownership changes, etc.), corrections can be made in red pen directly on the "one-page-per crossing printout" sheets and returned to FRA through the State for processing.

U.S. GPO 1988-518-525/82164



3.2 U.S. DOT-AAR Crossing Inventory Form Heading

A. Initiating Agency.

Enter a check mark in the appropriate box (for either railroad or State) to indicate who is initiating the update form.

B. Crossing Number.

Enter the crossing inventory number here and under "I. D. Number" at the bottom of the form.

C. Reason for Update.

Enter a check mark in the appropriate box to indicate that the reason for the form is a change in existing data, a new crossing, or a closing is being reported.

D. Effective Date.

Enter the date the change was completed or put into effect. Ideally, all public, private and pedestrian crossings, including grade-separated, should be updated to at least verify that the crossings still exist. A current effective date should be indicated. If it is verified that there are no changes in the data and the crossing still exists, and the most recent record is over 5 years old, an effective date of January 1 of the current year (e.g., 01/01/96) should be indicated in red pen on the inventory report and the old date crossed out.

3.3 Part I Location and Classification of All Crossings

Item 1. Railroad Operating Company.

Enter the U.S. DOT-AAR railroad code (reference Appendix E) of the "operating" railroad company, i.e., the railroad that operates train movements over the crossing. The operating railroad will normally also be the reporting company but may or may not own and maintain the roadbed, tracks, and signal system controlling the crossing. If the operating company is not the owner of the track, and the track owner would generally be considered as a "non-railroad," it is suggested to enter the owner's name in Item 13, Branch or Line Name.

NOTE:	Crossings are to be assigned to the operating railroad, that is, the identity of the railroad company that operates over the trackage where the crossing is located and not necessarily to the owner of the track or property itself, unless it is an operating railroad. Thus, designations such as "XYZ Corporation" should be changed to the name of the railroad that is actually operating on the specific line since they are the operating railroad.

Item 2. Railroad Division or Region.

Enter the name of the division, region, or major district, if the railroad system is divided into such groups.

Item 3. Railroad Subdivision or District.

Enter the name of the sub-division or other classification, if the railroad system is divided into such groups.

Item 4. State.

Enter the name of the State where the crossing is located. If the crossing is located on a State boundary so that parts of the crossing lie in two or more States, agreement must be made between the two States as to which shall "claim" it for inventory record purposes.

Item 5. County.

Enter the name of the county where the crossing is located. If the crossing is on a county line so that parts of the crossing lie in two or more counties, a decision must be made to place it in one county only.

Item 6. County Map. Ref. No.

Enter the county map identification or other reference number provided by the highway agency to specifically identify the crossing on the street and road system. If it is not available, leave this entry blank.

Item 7. City.

Enter the name of the incorporated city where the crossing is located. If the crossing is on a city line so that parts of the crossing lie in two or more cities, identify only one city. If not within a city, omit this item and complete item 8.

Item 8. Nearest City.

If the crossing is not within an incorporated city, town, or village, enter the name of the unincorporated city, town, or village or the nearest city, town, or village, whether or not on the railroad lines.

Item 9. Highway Type and No.

Enter the type of highway such as Interstate (I), U.S. numbered (US), State (ST), county (C), local (L), etc., and number of the highway. Please abbreviate, as I-95, US-1, ST-234, C-2096, etc. The number of the highway should be posted on the highway or found on State or county maps. If there is more than one number, enter the most important route or all the numbers.

Item 10. Street or Road Name.

Enter the name of the highway or street, if the highway or street has a name. If it is a private roadway and it has a name, enter the name of the road or the owner's name, otherwise just enter "private."

Item 11. RR I.D. No.

If a crossing has an identification number other than the DOT-AAR number, such as a State agency number (e.g., a Public Utility Commission (PUC) assigned number) or a railroad number and it is posted at or assigned to the crossing, enter that number.

Item 12. Nearest RR Timetable Station.

Enter the name of the nearest timetable station of the operating company.

Item 13. Branch or Line Name.

Enter the name of the line or branch as used by the railroad to describe this segment of track. If the track is an industry lead, industry spur, yard lead, wye, etc., enter the name of the track or industry.

Item 14. Railroad Mile Post.

Enter the railroad milepost number in miles and hundredths of miles. (53 feet is approximately 1/100 mile.) Enter the number with the decimal point.

NOTE:	Because of data-retrieval anomalies, alphabetical letters in the milepost field should be avoided.

Item 15. Pedestrian Crossing (Position).

Enter a check for the appropriate position of the railroad relative to the pedestrian crossing.

Item 16A. Private Vehicle Crossing (Type).

Enter a check in the box which best describes the usage of a private crossing based on the following categories:

1. Farm. A farm crossing is any crossing used for the movement of farm motor vehicles, farm machinery or livestock in connection with agricultural pursuits, forestry, or other land-productive purposes.

2. Residential. A residential crossing is any crossing used to provide vehicular access for occupants and their invitees to a private residence or residences.

3. Recreational. A recreational crossing is any crossing used to provide access to otherwise isolated recreational areas.

4. Industrial. An industrial crossing is any crossing used to provide access between industrial plant facilities or to an industrial or other commercial area.

Item 16B. Private Vehicle Crossing (Position).

Enter a check in the appropriate box describing where the railroad crosses the highway.

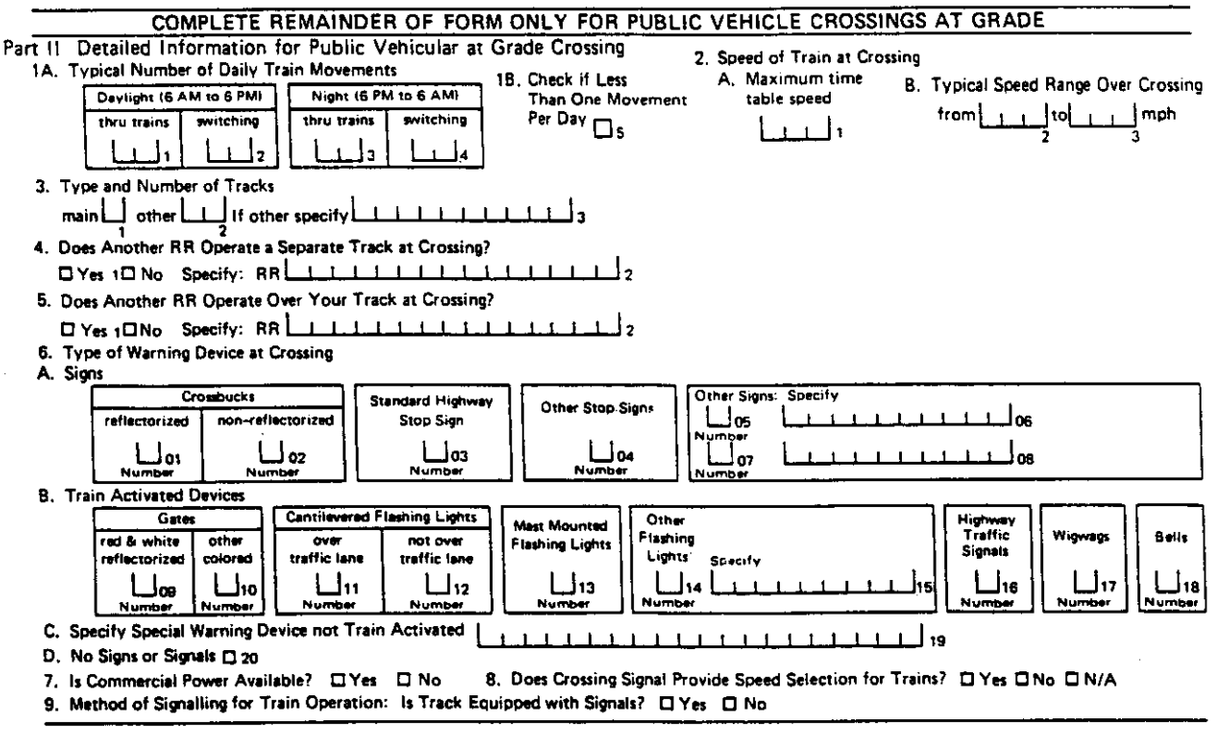
Item 16C. Private Vehicle Crossing (Warning Device).

Enter a check in the appropriate box for the type of crossing warning device. If signs and/or signals exist, enter a brief description in the spaces provided.

Item 17. Public Vehicle Crossing (Position).

Enter a check in the appropriate box for the position of the railroad relative to the public crossing and complete the remainder of the form for all public at-grade vehicular crossings.

NOTE:	For private, pedestrian, and grade-separated crossings, no further information needs to be provided. Such forms are complete and should be forwarded to the State and FRA for processing.


COMPLETE REMAINDER OF FORM ONLY FOR PUBLIC VEHICLE CROSSINGS AT GRADE

Part II Detailed Information for Public Vehicular at Grade Crossing

1A. Typical Number of Daily Train Movements

Daylight (6 AM to 6 PM)		Night (6 PM to 6 AM)	
thru trains	switching	thru trains	switching
1	2	3	4

1B. Check if Less Than One Movement Per Day ☐5

2. Speed of Train at Crossing
A. Maximum time table speed 1
B. Typical Speed Range Over Crossing from 2 to 3 mph

3. Type and Number of Tracks
main 1 other 2 If other specify 3

4. Does Another RR Operate a Separate Track at Crossing?
☐ Yes 1 ☐ No Specify: RR 2

5. Does Another RR Operate Over Your Track at Crossing?
☐ Yes 1 ☐ No Specify: RR 2

6. Type of Warning Device at Crossing
A. Signs

Crossbucks		Standard Highway Stop Sign	Other Stop Signs	Other Signs: Specify
reflectorized	non-reflectorized			
01 Number	02 Number	03 Number	04 Number	05 Number 06; 07 Number 08

B. Train Activated Devices

Gates		Cantilevered Flashing Lights		Mast Mounted Flashing Lights	Other Flashing Lights Specify	Highway Traffic Signals	Wigwags	Bells
red & white reflectorized	other colored	over traffic lane	not over traffic lane					
09 Number	10 Number	11 Number	12 Number	13 Number	14 Number 15	16 Number	17 Number	18 Number

C. Specify Special Warning Device not Train Activated 19
D. No Signs or Signals ☐ 20

7. Is Commercial Power Available? ☐ Yes ☐ No 8. Does Crossing Signal Provide Speed Selection for Trains? ☐ Yes ☐ No ☐ N/A
9. Method of Signalling for Train Operation: Is Track Equipped with Signals? ☐ Yes ☐ No

3.4 Part II Detailed Information for Public Vehicular at Grade Crossing

Item 1A1 - 1A4.

Enter the number of the train movements through the crossing and the number of switching movements at the crossing for both daylight and night time hours. Typical number of daily train movements means the normal or average daily train movements. Through trains are trains whose primary responsibility is to move cars over the road, and there may be a limited number of pickups and setouts along the route. Classify all others, (i.e., locals, industrial runs, switch engine) as switching movements. Include the total number of the train movements both for the reporting "operating" company and for any other railroad operating over the crossing.

Item 1B. Check if Less Than One Movement Per Day.

Enter a check if train frequency is less than one train per day.

Item 2A. Speed of Train at Crossing, Maximum Time Table Speed.

Enter the maximum timetable speed.

Item 2B. Speed of Train at Crossing, Typical Speed Range Over Crossing.

Enter the typical minimum speed and maximum speed over the crossing.

Item 3. Type and Number of Tracks.

Enter the number of main line tracks and specify the number and type of any "other" tracks. A track is considered main if through trains operate on the track.

Item 4. Does Another RR Operate a Separate Track at Crossing?.

Enter the U.S. DOT-AAR railroad codes of all railroads that operate a separate track within the warning devices at the crossing. Up to four railroad codes, in blocks of four characters each, may be entered in this field. Enter each railroad code, flush left, and the appropriate blank spaces if the code is not four characters.

Item 5. Does Another RR Operate Over Your Track at Crossing.

Enter the U.S. DOT-AAR railroad codes of all railroads that operate trains over your track at the crossing. Up to four railroad codes, in blocks of four characters each, may be entered in this field. Enter each railroad code, flush left, and the appropriate blank spaces if the code is not four characters.

NOTE: For Items 6A through 6D, that follow, if more than one type of warning device is present, fill in all applicable types of warning device(s). Enter a "9" where the number is 9 or greater. Provide short descriptions of "other" devices in the appropriate spaces.

Item 6A. Type of Warning Device at Crossing, Signs.

Enter the number of masts with crossbucks, not a count of all crossbuck signs. Two or more crossbucks mounted on a single mast are counted as one crossbuck. If the crossing has a train activated device, do not count the crossbucks mounted on that device.

A standard highway stop sign is red with white letters and has eight sides. Classify all other stop signs as "other stop signs."

Also indicate number and type of any other passive signs at crossing.

Item 6B. Type of Warning Device at Crossing, Train Activated Devices.

9./10. Gates: Enter the count of gates with red and white reflectorized arms separately from the count of other colored gates.

11./12. Cantilevered Flashing Lights: Separate cantilevered flashers from those over traffic lanes and those not reaching the roadway or over only parking lanes, turnout lanes, or shoulders. Count individual cantilever units; do not count the flasher head pairs mounted on the units.

13. Mast Mounted Flashing Lights: Count all flashers on a single mast as one flasher. Do not count flasher heads or a pair of flashing lights separately.

14./15. Other Flashing Lights: Flashing lights not in accordance with the latest Manual on Uniform Traffic Control Devices (MUTCD) should be reported as "other flashing lights."

16. Highway Traffic Signals: Highway signals refer only to train activated red-amber-green signals that control street traffic over the crossing. Do not count highway signals controlling a nearby intersection even if they are interconnected with the crossing devices.

17. Wigwags: Count all wigwags.

18. Bells: Count all bells if present, either alone or in conjunction with other protection.

Item 6C. Type of Warning Device at Crossing, Specify Special Warning Device not Train Activated.

Enter the type of special warning device which is not train activated. Examples of special warning devices not train activated are:

a. Manually operated signals and/or gates
b. Train crew flagging the crossing
c. Watchmen
d. Floodlights.

For watchmen and for manually operated gates, the number of hours daily in effect should also be indicated. For floodlighting, the number of masts with lights should be reported. Only floodlighting which is distinctive from other ordinary street

lighting in the immediate area by its intensity, light distribution, focus or color is to be reported.

Item 6D. Type of Warning Device at Crossing, No Signs or Signals.

Enter a check if no signs or signals are present.

Item 7. Is Commercial Power Available?

Enter a check in the appropriate box if there is commercial electric power available within 500 feet of the crossing.

Item 8. Does Crossing Signal Provide Speed Selection for Trains?

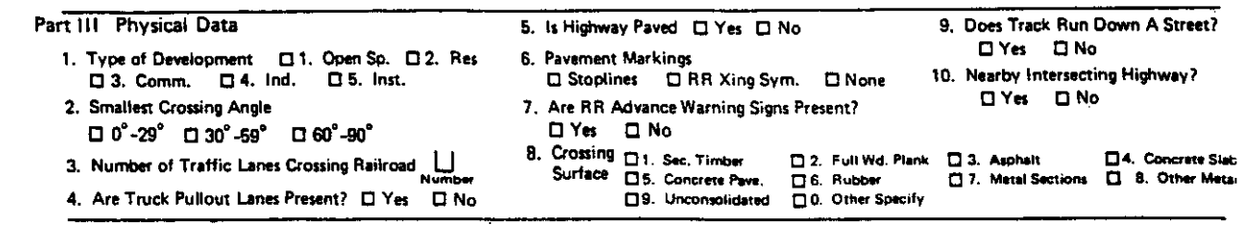
Enter a check in the appropriate box if the signal is equipped with a device to provide a constant warning time for train operation at the speed range listed in Item 2B. Enter a check in the N/A box (Not Applicable) if there are no automatic signals at the crossing.

NOTE: The four-part inventory form (often referred to as the "green form") asks, "Does crossing signal provide speed selection for trains?".

This question will only apply to crossings with automatic active warning devices. All other types of crossings (especially those with passive warning devices) should have the response "N/A" indicated. Crossings using only block or island type circuitry to activate the active warning devices should have the response "NO" indicated. For active warning device crossings, the response "YES" should be indicated if the track circuitry uses circuitry and electronic hardware which is termed as a "constant warning time (CWT) sensor," "predictor (Grade Crossing Predictor (GCP))," etc.

Item 9. Method of Signalling for Train Operation: Is Track Equipped with Signals?

Enter a check in the appropriate box for whether the track has some type of automatic signals or interlocking to control train operations.


Part III Physical Data

1. Type of Development ☐ 1. Open Sp. ☐ 2. Res ☐ 3. Comm. ☐ 4. Ind. ☐ 5. Inst.
2. Smallest Crossing Angle ☐ 0°-29° ☐ 30°-59° ☐ 60°-90°
3. Number of Traffic Lanes Crossing Railroad ☐☐ Number
4. Are Truck Pullout Lanes Present? ☐ Yes ☐ No
5. Is Highway Paved ☐ Yes ☐ No
6. Pavement Markings ☐ Stoplines ☐ RR Xing Sym. ☐ None
7. Are RR Advance Warning Signs Present? ☐ Yes ☐ No
8. Crossing Surface ☐ 1. Sec. Timber ☐ 2. Full Wd. Plank ☐ 3. Asphalt ☐ 4. Concrete Slab ☐ 5. Concrete Pave. ☐ 6. Rubber ☐ 7. Metal Sections ☐ 8. Other Meta ☐ 9. Unconsolidated ☐ 0. Other Specify
9. Does Track Run Down A Street? ☐ Yes ☐ No
10. Nearby Intersecting Highway? ☐ Yes ☐ No

3.5 Part III Physical Data

Item 1. Type of Development.

Enter a check in the appropriate box which best describes the predominant type of development in the vicinity (up to 1000 feet) of the crossing based on the following categories.

1. **Open Space.** Undeveloped or sparsely developed, very lightly populated, agricultural.

2. **Residential.** Built-up residential area.

3. **Commercial.** Retail stores and businesses, offices, personal services.

4. **Industrial.** Manufacturing, construction, heavy products, factories, and warehouses.

5. **Institutional.** Schools, churches, hospitals, parks, and other community facilities.

Item 2. Smallest Crossing Angle.

Enter a check in the appropriate box which most closely describes the smallest angle between the highway and the track. (The angle may be estimated by eye or with a simple device, such as a protractor.)

Item 3. Number of Traffic Lanes Crossing Railroad.

Enter the number of through traffic lanes crossing the track. Do not include shoulders or lanes that are typically used for parking.

Item 4. Are Truck Pullout Lanes Present?

Enter a check in the appropriate box for whether special added lanes are provided to accommodate vehicles required to stop at crossings.

Item 5. Is Highway Paved.

Enter a check in the "Yes" box if the highway is paved with material on which pavement markings can be effectively maintained. Enter a check in the "No" box if the highway surface is gravel, dirt, or has a surface treatment on which markings cannot be maintained.

Item 6. Pavement Markings.

Enter a check in the appropriate box for each type of pavement marking present that conforms to the highway traffic manual (MUTCD). If both stop lines and RR crossing symbols are present, check both boxes. If neither stop lines nor RR crossing symbols are present, check "None."

Item 7. Are RR Advance Warning Signs Present?

Enter a check in the appropriate box for whether there are advance warning signs present on any of the highway approaches.

Item 8. Crossing Surface.

Enter a check in the appropriate box which most closely fits one of the following descriptions:

1. Sectional Treated Timber. Prefabricated units approximately 8 feet in length of treated timber individually installed and removable for maintenance and replacement purposes.

2. Full Wood Plank. Full wood plank surface, other than section treated timber, covering the entire crossing area above the crossties, made out of ties, boards, bridge ties, etc.

3. Asphalt. Asphalt surface over the entire crossing area or in the area between planks or other material forming flangeway openings, with or without single planks, or rubber on outside of running rails.

4. Concrete Slab. Precast concrete sections, installed and removable, individually, for maintenance and replacement purposes.

5. Concrete Pavement. Concrete surface which is continuous over the track area and is not removable except by destruction of the surface.

6. Rubber. Preformed rubber sections, installed and removable, individually, for maintenance and replacement purposes.

7. Metal Sections. Preformed sections of steel or other metal, installed and removable, individually, for maintenance and replacement purposes.

8. Other Metal. Complete coverage of the crossing area with railroad rails or other metal materials not removable in limited sectional units.

9. Unconsolidated. Ballast or other unconsolidated material placed above the tops of crossties, with or without planks on one or both sides of the running rails.

0. Other Specify. Surfaces other than the previous surfaces (1 - 9): structural foam, plastic, "high-tech" etc.

If there are multiple tracks and the tracks have different types of surfaces, choose lower grade surface material to indicate on the form. (It doesn't increase the overall rideability of the crossing to have one surface better than the adjacent.) A suggested order might be: concrete, rubber, wood, asphalt, unconsolidated, other.

Item 9. Does Track Run Down A Street?

Enter a check in the appropriate box for whether the crossing involves the track running parallel to and within a street or highway.

Item 10. Nearby Intersecting Highway?

Enter a check in the appropriate box for whether the street or highway at this crossing is intersected by another street or highway within 75 feet of this crossing.

Part IV Highway Department Information 1. Highway System ☐☐ I. D. Number

2. Is Crossing on State Highway System? ☐ Yes ☐ No. 4. Estimate AADT ☐☐☐☐☐☐

3. Functional Classification of Road over Crossing ☐☐ 5. Estimate Percent Trucks ☐☐

Form FRA F 6180.71 (8-84)

3.6 Part IV Highway Department Information

Item 1. Highway System.

Enter the correct highway system code from the following Table 3-1.

The Highway System Codes for the National Highway-Rail Crossing Inventory File were revised as a result of the 1991 Intermodal Surface Transportation Efficiency Act, (ISTEA) Section 1006. ISTEA requireD the redefinition of the National Highway System (NHS) which Congress officially approved. The NHS includes approximately 160,000 miles while the total Federal-Aid Highway (FAH) is

approximately 953,000 miles (which includes the 160,000 mile NHS). There are now three classifications for highway systems which are:

		RXI Code
a.	National Highway System	1 & 2
b.	Other Federal-Aid Highway	3
c.	Non-Federal-Aid	8

The National Crossing Inventory File uses this classification, but subdivides the National Highway System into "Interstate" and "Other." On January 1, 1996, the old codes in the National Inventory File were automatically converted to the new Highway System Codes using the following process.

OLD CODES		NEW CODES
1 Interstate	-->	Interstate
2 Fed-Aid	-->	Other NHS
3 Fed-Aid Urban	-\	
	>	Other Fed-Aid Non NHS
4 Fed-Aid Secondary	-/	
8 Non Fed-Aid	-->	Non Fed-Aid

While this procedure converted most of the records to the new categories, many will need to be checked and verified by the States, especially where the status of a highway has changed. There is no change in the Functional Classification Codes.

The Highway System Codes are listed in the following table.

Code	Definition	Included
1	Interstate National Highway System	Interstate, rural, and urban
2	Other National Highway System	Other urban and rural principal arterial, non interstate (Congressional Approval, Sept. 30, 1995)
3	Other Federal-Aid Highway-Not NHS	Rural major collector and higher category, or urban collector and higher category, not part of NHS
8	Non-Federal-Aid	Local rural roads, rural minor collectors, and local urban city streets or any other non-Federal-Aid roadway

Table 3-1. Highway System Codes

Item 2. Is Crossing on State Highway System.

Enter a check in the appropriate box for whether the crossing is on a State highway system.

Item 3. Functional Classification of Road over Crossing.

Enter the appropriate code for the functional classification of the crossing highway that the State has determined in accordance with the Federal-Aid Highway Program Definitions. The current functional classification codes are listed in Table 3-2.

Category	Codes	Functional Classification
Rural	01	Interstate
	02	Other principal arterial
	06	Minor arterial
	07	Major collector
	08	Minor collector
	09	Local
Urban	11	Interstate
	12	Other freeway and expressway
	14	Other principal arterial
	16	Minor arterial
	17	Collector
	19	Local

Table 3-2. Functional Classification Codes

NOTE: The tens digit for the rural codes must be "0" and for urban must be "1".

Item 4. Estimate AADT.

Enter the estimated present average daily traffic (total both directions) based on available traffic information. A reasonable estimate of the AADT will be acceptable if actual traffic counts are not readily available.

Item 5. Estimate Percent Trucks.

Enter the estimated percentage of trucks in the traffic stream.